

Five Star Panel

Installation Instructions

How to Store Five Star Panels

You will need to store FIVE STAR PANELS in dry place to prevent staining, deterioration and possibly void all warranties. Stand the panels on end and fan them out at the bottom to provide positive air circulation and moisture run-off. If panels must be stacked, they should be kept off the ground on wooden blocks or strips in an inclined position in a dry place.

The panels should be stored outside only when it is absolutely necessary and then only for short periods of time. The use of canvas or waterproof paper should be used only when allowing for ventilation. Plastic tarping, which may cause sweating and condensation and trap moisture, should never be used.

If these precautions are taken and moisture is trapped in the panel, superficial staining may occur. When moisture remains in the bundle of FIVE STAR PANELS for a considerable time, wet-storage stains can occur, reducing the effective life of the panel.

Failure to comply with the above recommended procedures relieves NORTH STAR METALS, INC. of responsibility and voids all warranties.

Handling & Unloading

When unloading bundles of FIVE STAR PANELS, extreme caution is advised. A forklift can dent or puncture the underside of the sheet. It is recommended that a spreader device be used on the forklift for bundles over 20 feet in length to avoid bending in the middle of the sheets.

Care should also be exercised to protect the finish when lifting individual panels from the stack or bundle. Dragging of individual sheets from the bundle can scratch the surface and reduce the paint performance.

The paint finish of FIVE STAR is tough enough to withstand usual weather conditions but can be scratched and abraded if care is not taken.

The panel edges must be protected at all times during the unloading and handling process to assure good fitting and good looking lap joints on the finished installation.

CAUTION: Sheet Metal roofing can have sharp edges. Safety equipment should be worn by workers.

Cutting, Trimming

There will always be a certain amount of cutting and trimming necessary on the jobsite, such as for openings and gable end panels. Whether cutting with the rib or against it, the use of a steel cutting blade or Carborundum Blade with electric saw is imperative. For even better results, cutting may also be accomplished by a portable shear profiled to conform to FIVE STAR CONFIGURATION or perfect across-the-profile cutting.

Panels are to be cut one at a time and should be turned with the exterior side down and the reverse side up in order that the hot metal particles and filings from the cutting do not become embedded in and cause rust marks on the exterior face of the panel. Also, care should be taken to brush off all panel particles after cutting to further reduce the possibility of rust marks and bleeding on the panel after it is installed.

Failure to comply with the above procedures relieves NORTH STAR METALS, INC. of the responsibility for any resulting damage to, or deterioration of, the finish and voids the paint warranty.

CAUTION: When cutting roofing and siding, safety glasses and other safety equipment should be worn by workers.

Roofing Installation Sequence

Begin laying the roofing panels on the end of the building away from the prevailing wind so the side lap seams shall face away from the prevailing wind-driven rain. This provides extra security against water penetration.

The first panel determines the alignment of all the remaining panels on the roof, so extreme care should be taken to accurately square the first sheet. The overlapping rib edge should be flush with the edge of the roof (**Figure 8**), and the panel should overhang the eave approximately three inches to provide for a drip edge. The side rib with the drain channel should face the direction in which the sheets are being laid down (**Figure 9**). When the panel is positioned, it should be fastened through the first rib, top and bottom. The panel should be attached completely before starting the next panel.

A tip for assuring straight alignment for successive rows of panels is to stretch chalk lines between nails driven into the ridge and end of each edge rafter. These lines will serve as guidelines to align panels.

If roof requires more than one horizontal row of panels, temporarily fasten at two points, not the ends, along main middle ribs of Panel #1 in lower corner. Next, install Panel #2 above and end lapping over Panel #1. Align both panels with chalk line. Install Panel #3 next to Panel #1 side lapping the Antisiphon feature. Install Panel #4 above Panel #3 side lapping over Panel #2 and end lapping over Panel #3. Check the alignment at ridge and eave again. Temporarily fasten all panels; permanently fasten when all panels are in line. Refer to **Figure 6. Figure 7** shows the proper sequence for the installation of one row of FIVE STAR roofing.

CAUTION: Do not leave unattended or unattached sheets on a roof.

Siding Installation Sequence

Siding panels should be installed with the lap joint facing away from the prevailing wind like the roof. Beginning at an opening, such as a door or window minimizes cutting.

Do not run siding sheets all the way to the ground. It is important that all siding panels be prevented from permanently contacting the soil; siding panels should lap at least three inches over the foundation of splash board. The first siding panel must be plumb to assure straight alignment of the entire row of panels.

Base guard needs to be nailed on at desired bottom edge height, then used as a plumb line to make a nice straight appearance. Temporarily fasten the first FIVE STAR panel at the starting edge. Install the second panel next to the first with the FIVE STAR overlapping (**Figure 9**). Temporarily fasten all panels; permanently fasten when all panels are in line.

Roof Pitch

FIVE STAR PANEL Roofing requires a certain degree of pitch to ensure proper drainage. Roofing should be applied on roofs with a pitch of at least 2 1/2 inches per foot. When end lapping roof panel sheets, a 12 inch lap is recommended for roofs having a pitch under three inch rise per foot. From three inches to five inches of rise per foot, an eight inch end lap is recommended. Any slope five inches or more requires a six inch end lap.

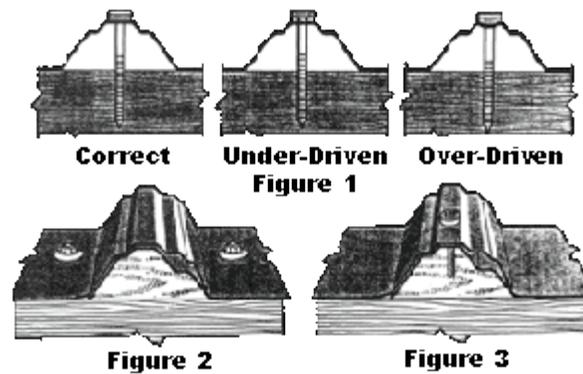
Fastening

Acceptable fasteners include galvanized nails or plated self-drilling wood screws. Nails should be spiral or ring shank design with a neoprene gasketing under the head. The correct way to nail is to drive the fastener through the steel so the nail washer is compressed securely against the metal. Refer to (**Figure 1**). However, **DO NOT OVER DRIVE THE NAIL** and dimple the steel. If this is done, water may collect in the dimpled area and leak through. Under-driving

can also allow leakage to occur around the nail shaft.

Wood screws with combination metal and neoprene washers should be mechanically driven into the valley or bottom flat of the profile. Refer to **(Figure 2)**. When using nails, the nails should be two inches long to penetrate approximately 1 1/4 inches into the purlin when driven through the rib. Screw length should allow a penetration of one inch. When installing panels over insulation board, increase the above lengths by the amount of insulation thickness. Select nail lengths for roofing and siding that do not completely penetrate through purlins or grits.

Never drive nails or screws through the drain channel, as the result may cause leakage and ruin the effectiveness of the drain channel. **(Figure 3)** shows the proper fastening through the lap joint.



Fastener Position

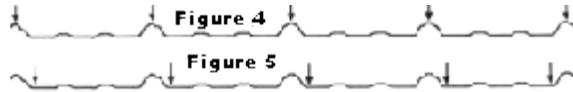
As illustrated in **(Figure 4)**, FIVE STAR Roofing should be attached through the top of each major rib into each purlin. If the roof purlins are spaced less than 18 " on center, an alternate fastening pattern is through every major rib on every purlin and nailing only the center rib on alternating purlins.

When using nails, attachment along the ridge and eave purlin on the roof should be through the bottom flat of the sheet instead of the top flat of the main rib. **(Figure 5)**.

When using nail fasteners and attaching FIVE STAR wall panels to girts, either a pattern attaching every major rib over wall girts or in the bottom flat surface next to each major rib may be used. **(Figures 4 & 5)**.

Screw Fasteners

When using screw fasteners, it is recommended that screws be placed in the bottom flat surface immediately adjacent to the major rib on one side or the other for both roofing and siding panels. (Figure 5).



Prevailing Winds

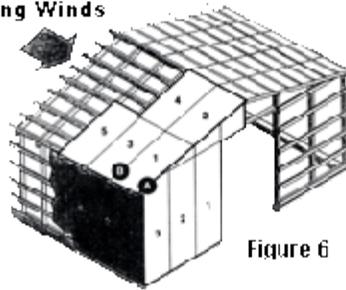


Figure 6



Figure 8

Prevailing Winds

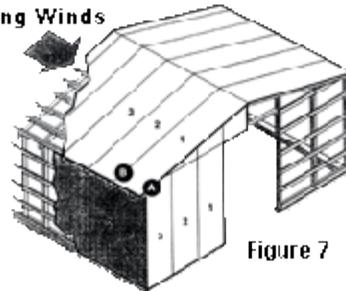


Figure 7



Figure 9